

3M Docket No.: 55559US002

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: John R. Jacobson et al.
Serial No.: 09/808,584
Filed: March 14, 2001
Title: COATING APPARATUS

Art Unit: 1734
Examiner: Edwards

MAIL STOP APPEAL

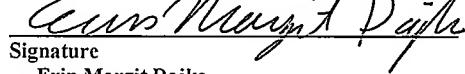
Commissioner for Patents
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SUBSTITUTE APPEAL BRIEF

Applicants submit this Substitute Appeal Brief in support of the Notice of Appeal, dated February 17, 2006, in response to the outstanding Office Action dated November 18, 2005, and in response to the Notice of Non-Compliant Appeal Brief dated April 11, 2007.

CERTIFICATE OF TRANSMISSION

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I. Real Party in Interest

The real party in interest is 3M Innovative Properties Company.

II. Related Appeals and Interferences

There are no related appeals or interferences pending.

III. Status of Claims

Claims 1-9, 19-24, 29-35, and 57 are on appeal.

Claims 1-35 and 57-61 are pending.

Claims 58-61 are allowed.

Claims 10-18 and 25-28 are objected to.

Claims 36-56 are cancelled.

IV. Status of Amendments

There are no unentered amendments.

The Amendment After Final filed January 18, 2006, is entered.

V. Summary of the Claimed Subject Matter

A summary of each independent claim on appeal, as well as each dependent claim argued separately, is provided below. The support listed for each claim is exemplary, as support for the claimed subject matter can be found in general throughout Applicants' Specification.

Applicants' invention is directed, in part, to a coating apparatus in which a metering bar exerts a force against an applicator (Applicants' Specification, page 8, line 18 to page 9, line 4 and FIGS. 1-3). In operation, a coating composition is present in the nip formed by the metering bar and the applicator (*Id.*). When the applicator moves, the coating composition exerts a hydraulic force against the metering bar (*Id.*). If the hydraulic force is greater than the force exerted by the metering bar against the applicator, the hydraulic force will cause the metering bar to move away from the applicator allowing an amount of composition to move past the metering bar as it is carried on the applicator (*Id.*).

Claim 1 is directed to an apparatus for coating an article, the apparatus including an applicator, a conveyor for sequentially transporting a plurality of articles to the applicator, and a metering bar comprising a fixed arcuate end positioned against the applicator to meter a predetermined amount of coating composition to the applicator for transfer to an article transported to the applicator by the conveyor (*Id.* at page 1, lines 28-32). The metering bar forms a nip with the applicator and exerts a force against the applicator, the predetermined amount of coating composition is determined, in part, by the force of the metering bar and a hydraulic force present at the nip (*Id.* at page 8, line 18 to page 9, line 4).

Claim 2 is directed to the applicator of claim 1 and further recites that the applicator includes a roller having a durometer of no greater than about 55 Shore A (*Id.* at page 1, line 32-page 2, line 1).

Claim 8 is directed to the applicator of claim 1 and further recites that the conveyor and the applicator are configured to enable the applicator to apply a coating to the edge face of a roll of tape disposed between the conveyor and the applicator (*Id.* at page 2, lines 10-12).

Claim 12 depends indirectly from claim 1 and further recites that the applicator includes a roller and the fixed arcuate end of the metering bar is positioned against the roller (*Id.* at page 1, line 32-page 2, line 1).

Claim 19 is directed to a system that includes a first station that includes the coating apparatus and a second station for solidifying the coating composition disposed on the article (*Id.* at page 3, lines 1-7).

Claim 32 is directed to the system of claim 19 and further recites that the second station includes a source of radiation (*Id.* at page 3, line 28).

Claim 57 is directed to an apparatus for coating an article, the apparatus including an applicator roller, a conveyor for sequentially transporting a plurality of articles to the applicator roller, and a metering bar positioned against the applicator roller to meter a predetermined amount of coating composition to the applicator for transfer to an article transported to the applicator by the conveyor (*Id.* at page 6, lines 26-29).

VI. Grounds of Rejection to be Reviewed on Appeal

A. Whether claims 1-9, 19-24, 29-35, and 57 are patentable under 35 U.S.C. § 103 over Jonkers (U.S. 4,299,164) in view of Jaffa et al (U.S. 5,501,147)?

B. Whether claims 32-34 are patentable under 35 U.S.C. § 103 over Jonkers (U.S. 4,299,164) in view of Jaffa et al (U.S. 5,501,147), and in further view of Kirk Othmer?

VII. Argument

A. Claims 1-9, 19-24, 29-35 and 57 are patentable under 35 U.S.C § 103(a) over Jonkers in view of Jaffa et al.

Claims 1-9, 19-24, 29-35, and 57 stand rejected under 35 U.S.C § 103(a) over Jonkers (U.S. 4,299,164) in view of Jaffa et al. (U.S. 5,501,147).

Jonkers discloses a squeegee for pressing a dyepaste through a sieve (e.g., a stencil) of a printing machine and onto a web or sheet. See Jonkers, col. 1, line 5-6. (Emphasis added.)

Jaffa et al. disclose an apparatus for conveying a printed sheet from one conveyor to another. See Jaffa et al., col. 1, lines 6-8.

1. Claims 1, 3-7, 19-24 and 29-35

Claim 1 is directed to an apparatus for coating an article where the apparatus includes an applicator, a conveyor for sequentially transporting a plurality of articles to the applicator, and a metering bar that includes a fixed arcuate end positioned against the applicator to meter a predetermined amount of coating composition to the applicator for transfer to an article transported to the applicator by the conveyor. The metering bar forms a nip with the applicator and exerts a force against the applicator. The predetermined amount of coating composition is determined, in part, by the force of the metering bar and a hydraulic force present at the nip. In proceedings before the Patent and Trademark Office, the Examiner bears the burden of establishing a *prima facie* case of obviousness based upon the prior art. *In re Piasecki*, 745 F.2d 1468, 1471-72 (Fed. Cir. 1984). To establish a *prima facie* case of obviousness, the cited reference (or combination of references) must teach or suggest all of the claim limitations. M.P.E.P. 2143. “On appeal to the Board, an applicant can overcome a rejection by showing insufficient evidence of *prima facie* obviousness.” *In re Rouffett*, 149 F.3d. 1350, 1355 (Fed. Cir. 1998). The November 18th Office action takes the position that element 3 of Jonkers is an “applicator roll” (see November 18th Office action, page 2). Element 3 of Jonkers is a stencil. A stencil is a sheet with openings through which ink can pass to

create a printed pattern. Jonkers describes passing a dye paste through a stencil and onto a sheet or web (see, Jonkers, col. 1, line 5-6 and claim 1 (“A squeegee device for pressing a dye paste through a screen of a printing machine … comprising … an edge strip … engageable with said screen to press dye paste there through during printing”)). (Emphasis added.) Thus, the dye paste of Jonkers is not metered to the stencil and then transferred to the web. Rather, the dye paste is pressed directly from the squeegee of Jonkers to the web. The Examiner acknowledges the same at page 3, third full paragraph of the November 18th Office action, “[I]t is within the level of ordinary skill in the art to determine the appropriate radius dimension of the end [of the metering bar] so as to meter the predetermined amount of coating material onto the web or sheet.” Thus, the Examiner acknowledges that it is the squeegee –not the stencil-- of Jonkers that meters a coating material to the web. The stencil, i.e., element 3, of Jonkers thus is not an applicator to which a coating composition is metered and from which the coating composition is transferred to an article. Accordingly, Jonkers fails to teach a required element of the apparatus of claim 1. The rejection of claim 1 under 35 U.S.C § 103 over Jonkers in view of Jaffa et al. is based on the premise that Jonkers teaches the applicator recited in claim 1. Since this premise has been refuted, a *prima facie* case of obviousness of claim 1 has not been established. Applicants submit, therefore, that the rejection of claim 1 under 35 U.S.C § 103 over Jonkers in view of Jaffa et al. has been overcome and requests that it be overruled.

Claims 2-9, 19-24, 29-31, 35 and 57 are distinguishable under 35 U.S.C. § 103 over Jonkers in view of Jaffa et al. for at least the same reasons set forth above in distinguishing claim 1.

Claims 2, 8, 9 and 57 are further distinguishable under 35 U.S.C § 103 over Jonkers in view of Jaffa et al. for at least the following additional reasons.

2. Claim 2

Claim 2 depends from claim 1 and further discloses that the applicator includes a roller having a durometer of no greater than about 55 Shore A, the fixed arcuate end of the metering bar being positioned against the roller. Jonkers does not teach an applicator

that includes a roller. The applicator of Jonkers, i.e., the element of Jonkers that applies the dye paste to a web, is a squeegee. Jonkers does not teach or suggest that his squeegee is a roller. Nothing in the record establishes anything to the contrary.

The element that the November 18th Office action indicates is an “applicator roll,” i.e., element 3, is actually a curved stencil. As demonstrated above with respect to claim 1, the curved stencil of Jonkers does not transfer a coating composition to an article and is not an applicator. Jonkers thus fails to teach an applicator that includes a roller, as required by claim 2. Therefore, since the premise on which the rejection of claim 2 under 35 U.S.C. § 103 over Jonkers in view of Jaffa et al. is based has been refuted, the rejection of claim 2 under 35 U.S.C. § 103 over Jonkers in view of Jaffa et al. cannot stand and must be overruled.

The rejection of claim 2 under 35 U.S.C. § 103 over Jonkers in view of Jaffa et al. is further deficient for at least the following additional reasons. Even if it is assumed that the stencil of Jonkers is an applicator, which Applicants in no way concede, Jonkers does not teach or suggest that his stencil should have any particular durometer –let alone a durometer of no greater than about 55 Shore A. Therefore the skilled artisan would have no reason to modify the stencil of Jonkers in the manner proposed in the November 18th Office action.

The November 18th Office action takes the position that the hardness of the applicator is within the purview of one skilled in the art (see November 18th Office action, page 3). The rationale to support a rejection under 35 U.S.C. § 103 may rely on logic and sound scientific principle. M.P.E.P. 2144.02 *citing In re Soli*, 317 F.2d 941 (CCPA 1963). However, it is never appropriate to rely solely on "common knowledge" in the art, without evidentiary support in the record, as the principal evidence in support of an obviousness rejection. See M.P.E.P. 2144.03, *citing In re Zurko*, 258 F.3d 1379, 1385 (Fed. Cir. 2001). Rather, the Office action must point to some concrete evidence in support of the finding. *Id. citing In re Zurko*, 258 F.3d at 1385. The November 18th Office action does not contain any evidence supporting the above-quoted assertion or establishing that the skilled artisan would have any reason to modify the stencil of Jonkers to have a durometer of no greater than 55 Shore A. Accordingly, a *prima facie*

case of the obviousness of claim 2 has not been established. For at least this additional reason the rejection of claim 2 under 35 U.S.C. § 103 over Jonkers in view of Jaffa et al. is unwarranted and cannot stand.

3. Claim 8

Claim 8 depends from claim 1 and further discloses that the conveyor and the applicator are configured to enable the applicator to apply a coating to the edge face of a roll of tape disposed between the conveyor and the applicator. Jonkers discloses transferring a dye paste to a sheet or a web. The Examiner takes the position that the apparatus that allegedly arises as a result of the proposed combination of Jonkers and Jaffa et al. would inherently enable coating on the side of a roll of tape (see November 18th Office action, page 4). To establish a *prima facie* case of obviousness based upon a proposed combination of references there must be a teaching, suggestion or motivation in the prior art for making the proposed combination. See M.P.E.P. 2142; *Fromson v. Anitec Printing Plates, Inc.*, 132 F.3d 1437 (Fed. Cir. 1997); *C.R. Bard, Inc. v. M3 Sys., Inc.*, 157 F.3d 1340, 1352, (Fed. Cir. 1998). The teaching, motivation or suggestion may be implied by the prior art. The test for an implicit showing is what the teaching in the prior art, the knowledge of the skilled artisan, and the nature of the problem to be solved, as a whole, would have suggested to the person of ordinary skill in the art. *In re Kahn*, 441 F.3d at 987-988. The rejection on obviousness grounds cannot be based on a conclusory statement. Rather, the rejection must contain some articulated reasoning having some rational underpinning to support the legal conclusion of obviousness. In particular, the rejection must set forth some explanation of the reasons why one of ordinary skill in the art would have been motivated to select the references and combine them in such a manner so as to render the claimed invention obvious. *In re Rouffet*, 149 F.3d at 13567-1359; see also *In re Kahn* 441 F.3d at 988 citing *Cross Med. Prods. Inc. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293, 1321-24 (Fed. Cir. 2005) (“[T]he ‘motivation-suggestion-teaching’ test asks not merely what the references disclose, but whether a person of ordinary skill in the art, possessed with the understandings and knowledge reflected in the prior art, and motivated by the general problem facing the

inventor, would have been led to make the combination recited in the claims"). Here, the Examiner has failed to identify where in the cited references there is a teaching, suggestion or motivation for modifying the apparatus of Jonkers to enable it to coat the edge face of a roll of tape. The Examiner also fails to explain why the person of ordinary skill in the art would combine Jonkers and Jaffa et al. in such a manner so as to render the apparatus of claim 8 obvious. The Examiner simply concludes that it would have been inherent in the apparatus (see November 18th Office action, page 4). Such a statement does not discharge the Examiner's burden and reflects a rejection made in impermissible hindsight. See, *In re Kahn*, 441 F.3d 977, 986 (Fed. Cir. 2006) *citing In re Rouffett*, 149 F.3d. at 1358 ("When the . . . [Examiner] does not explain the motivation, the suggestion or the teaching that would have led the skilled artisan at the time of the invention to the claimed combination as a whole, it is inferred that the . . . [Examiner] used hindsight to conclude that the invention was obvious. . . . The 'motivation-suggestion-teaching' requirement protects against the entry of hindsight into the obviousness analysis, a problem which [35 U.S.C.] § 103 was meant to confront.").

The device of Jonkers is described as being suitable for pressing a dye paste through a sieve of a printing machine for printing a web of material, e.g., cloth (see Jonkers, col. 1, lines 5-8 and col. 4, line 3). Jonkers does not teach or suggest coating the edge face of a roll of tape or modifying his machine to enable it to coat the edge face of a roll of tape. Nothing in the record establishes anything to the contrary.

Jaffa et al. do not cure the deficiencies of Jonkers. The system of Jaffa et al. is for printing on sheets of textiles or plastic, and T-shirts (see Jaffa et al. col. 6, lines 5-7). Jaffa et al. do not teach or suggest coating the edge face of a roll of tape or modifying their apparatus to enable it to coat the edge face of a roll of tape. Nothing in the record establishes anything to the contrary. Accordingly, the skilled artisan would have no reason to *sua sponte* modify the apparatus of Jonkers to enable it to coat the edge face of a roll of tape. Applicants submit, therefore, that the rejection of claim 8 under 35 U.S.C. § 103 over Jonkers in view of Jaffa et al. cannot stand and request that it be overruled.

4. Claims 9 and 57

Claim 9 depends from claim 1 and further specifies that the applicator includes a roller. Claim 57, an independent claim, specifies that the applicator is an applicator roller. Jonkers does not teach an applicator that includes a roller. The applicator of Jonkers, i.e., the element of Jonkers that applies the dyepaste to a web, is a squeegee. Jonkers does not teach or suggest that his squeegee is a roller. Nothing in the record establishes anything to the contrary.

The element that the November 18th Office action indicates is an “applicator roll”, i.e., element 3, is actually a curved stencil. As demonstrated above with respect to claim 1, the curved stencil of Jonkers does not transfer a coating composition to an article and is not an applicator. Jonkers thus fails to teach a required element of claims 9 and 57. Accordingly a *prima facie* case of obviousness of claims 9 and 57 has not been established. Since the premise on which the rejection of claims 9 and 57 under 35 U.S.C. § 103 over Jonkers in view of Jaffa et al. is based has been refuted, the rejection of claims 9 and 57 under 35 U.S.C. § 103 over Jonkers in view of Jaffa et al. cannot stand and must be overruled.

B. Claims 32-34 are patentable under 35 U.S.C. § 103 over Jonkers and Jaffa et al. and further in view of Kirk Othmer.

Claims 32-34 stand rejected under 35 U.S.C. § 103 over Jonkers and Jaffa et al. and further in view of Kirk Othmer.

The discussion of Jonkers set forth above is incorporated herein.

The discussion of Jaffa et al. set forth above is incorporated herein.

Kirk-Othmer describes various radiation sources and discusses radiation curing.

Claims 32-34 require a metering bar positioned against an applicator to meter a predetermined amount of coating composition to the applicator for transfer to an article. The rejection of claims 32-34 is based on the above-refuted premise that Jonkers teaches a metering bar that includes a fixed arcuate end positioned against the applicator to meter a predetermined amount of coating composition to the applicator for transfer to an article

transported to the applicator. Since this premise has been refuted, a *prima facie* case of obviousness of claims 32-34 has not been made, and the rejection of claim 32-34 under 35 U.S.C. § 103 over Jonkers and Jaffa et al. and further in view of Kirk Othmer cannot stand and must be overruled.

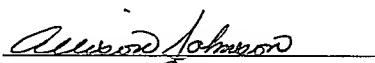
The claims now pending in the application are in condition for allowance. Applicants respectfully request the Board to overrule the rejections of record with direction to pass the application to issue.

An Appendix of the claims involved in the appeal is attached at Tab 1.

Please charge any fees owing or credit any over payments made to Deposit Account No. 501,171.

Respectfully submitted,

Date: April 16, 2007


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CLAIMS APPENDIX

1. An apparatus for coating an article, said apparatus comprising:
 - an applicator;
 - a conveyor for sequentially transporting a plurality of articles to said applicator; and
 - a metering bar comprising a fixed arcuate end positioned against said applicator to meter a predetermined amount of coating composition to said applicator for transfer to an article transported to said applicator by said conveyor,
 - said metering bar forming a nip with said applicator and exerting a force against said applicator,
 - said predetermined amount of coating composition being determined, in part, by said force of said metering bar and a hydraulic force present at said nip.
2. The apparatus of claim 1, wherein said applicator comprises a roller having a durometer of no greater than about 55 Shore A, said fixed arcuate end of said metering bar being positioned against said roller.
3. The apparatus of claim 1, wherein said applicator is configured to enable the application of a substantially uniform layer of coating composition on articles having different dimensions.
4. The apparatus of claim 1 wherein the end of said metering bar positioned against said applicator has a radius of at least about 2.5 mm.
5. The apparatus of claim 1 wherein the end of said metering bar positioned against said applicator has a radius of at least about 4.0 mm.

6. The apparatus of claim 1, wherein said metering bar and said applicator are arranged to enable said metering bar to exert a force of at least about 35 g/cm width against said applicator.

7. The apparatus of claim 1, wherein said metering bar and said applicator are arranged to enable said metering bar to exert a force of from about 45 g/cm width to about 900 g/cm width against said applicator.

8. The apparatus of claim 1, wherein said conveyor and said applicator are configured to enable said applicator to apply a coating to the edge face of a roll of tape disposed between said conveyor and said applicator.

9. The apparatus of claim 1, wherein said applicator comprises a roller and said fixed arcuate end of said metering bar is positioned against said roller.

19. A system for manufacturing coated articles, said system comprising
a first station comprising a coating apparatus comprising
an applicator,
a conveyor capable of sequentially transporting a plurality
of articles to said applicator, and
a metering bar positioned against said applicator to meter a
predetermined amount of coating composition to said applicator
for transfer to an article transported to said applicator by said
conveyor,
said metering bar forming a nip with said applicator
and exerting a force against said applicator,
said predetermined amount of coating composition
being determined, in part, by said force of said metering bar
and a hydraulic force present at said nip; and
a second station for solidifying the coating composition disposed
on the article.

20. The system of claim 19, wherein said applicator comprises a roller and said fixed arcuate end of said metering bar is positioned against said roller.
21. The system of claim 19, wherein said applicator comprises an endless belt.
22. The system of claim 19, wherein said conveyor is capable of transporting a coated article to said second station.
23. The system of claim 19, further comprising a second conveyor capable of transporting a coated article from said first station to said second station.
24. The system of claim 19, further comprising a second conveyor comprising a first endless belt and a second endless belt, said second conveyor being positioned to transport a coated article to said second station.
29. The system of claim 19, further comprising a second conveyor positioned to transport a coated article to said second station.
30. The system of claim 19, further comprising a second conveyor comprising a first endless belt and a second endless belt, said second conveyor being positioned to transport a coated article to said second station.
31. The system of claim 30, wherein said second conveyor is capable of transporting a coated article between said first endless belt and said second endless belt.
32. The system of claim 19, wherein said second station comprises a source of radiation.

33. The system of claim 32, wherein said source of radiation is capable of generating radiation selected from the group consisting of ultraviolet radiation and electron beam radiation.

34. The system of claim 19, wherein said solidifying comprises curing.

35. The system of claim 19, wherein said solidifying comprises drying.

57. An apparatus for coating an article, said apparatus comprising:
an applicator roller;
a conveyor for sequentially transporting a plurality of articles to
said roller; and
a metering bar comprising a fixed arcuate end positioned against
said roller to meter a predetermined amount of coating composition to said
roller for transfer to an article transported to said applicator by said
conveyor.

EVIDENCE APPENDIX

(NONE)

RELATED PROCEEDINGS APPENDIX
(NONE)